

REMARKS

Applicant respectfully requests reconsideration of the present application in view of these comments.

I. Status of the Claims

Claims 1-15 are pending and claims 12-15 are withdrawn. Thus, claims 1-11 are pending and subject to examination on the merits.

II. Claim Rejections Under 35 U.S.C §§ 102/103

Claims 1-11 stand rejected for alleged anticipation by or obviousness over van Lengerich, U.S. Patent No. 6,500,463. The examiner alleges that the '463 patent discloses encapsulation of microorganisms "by the combination of a protein and a carbohydrate by mixing a water dispersible probiotic microorganism in an aqueous suspension of a protein and a carbohydrate." (Office Action at page 5, lines 13-15.)

The '463 patent is ineffective as a reference in this regard because it does not suggest a probiotic "encapsulated in a protective encapsulant to prolong the storage life of the probiotic, wherein the encapsulant is formed by the combination of a protein and a carbohydrate," as recited.

The claimed invention ensures that the encapsulating mixture of "a protein and a carbohydrate" about individual particles of the probiotic materials through use of one of (a)-(c). The '463 patent does not teach or suggest any of these steps. Rather, the '463 patent simply blends a material, such as a probiotic, into a dough-like carbohydrate mixture, in a manner shown in the examples. Nothing of this even hints at using film-forming proteins in combination with carbohydrate, as the present claims prescribe.

The examiner contends that the '463 patent teaches the "combination of a protein and a carbohydrate by mixing a water dispersible probiotic microorganism in an aqueous suspension of a protein and a carbohydrate" at the paragraph bridging columns 8-9. This paragraph simply recites a laundry list of potential encapsulation materials and contains the typical patent term of art "or mixtures thereof." This general disclosure would not have guided the skilled artisan to select from the laundry list and combine a protein and a carbohydrate. Rather, the '463 patent goes on to discuss preferred encapsulating coatings that are mixtures of carbohydrates. The examples bear out this teaching in using semolina, wheat gluten, or starch as encapsulation materials, none of which is a

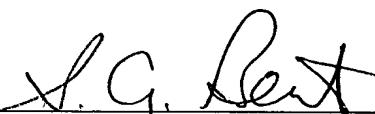
film-forming protein. Moreover, the '463 patent lacks any indication of mixing the ingredients to form an emulsion when the probiotic material is in an oil phase.

With reference to the '463 patent, the examiner cites paragraph 6, line 50, for teaching that “[t]he material is a film forming substance.” (Office Action at p. 5.) This portion of the '463 patent does not refer to the encapsulant material, however, but rather another material that “delay[s] or prevent[s] the access of light, oxygen, and/or water to the matrix.” This additional “film-building substance” is only applied to the encapsulated material *after* it has been “admixed with the plasticizable matrix,” extruded,” and “formed into pieces or pellets” (col. 6, ll. 39-47).

The examiner notes that “[w]hey protein … is disclosed” at col. 13, line 57, or the '463 patent. This is technically correct, but the '463 patent discloses whey protein not as an encapsulant but rather, with a litany of other components, as a possible “additional component[]” that is used “to improve sensory attributes” of the composition. ('463 patent at col. 13, ll. 63-66.) The '463 patent, therefore, does not suggest the use of whey protein as an encapsulant.

Applicant submits, therefore, that the present application is in condition for allowance, and favorable reconsideration is requested. Examiner Ware is invited to contact the undersigned directly, should she feel that any issue warrants further consideration.

Respectfully submitted,

By 

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Date October 19, 2009

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The Commissioner is hereby authorized to charge any additional fees, which may be required under 37 C.F.R. §§ 1.16-1.17, and to credit any overpayment to Deposit Account No. 19-0741. Should no proper payment accompany this response, then the Commissioner is authorized to charge the unpaid amount to the same deposit account. If any extension is needed for timely acceptance of submitted papers, then applicants hereby petition for such extension under 37 C.F.R. § 1.136 and authorize payment of the relevant fee(s) from the deposit account.